

What is claimed is:

1 A broadcasting control system in an ATM ring  
2 network in which a control cell containing control  
3 information is transmitted by ATM (Asynchronous Transfer  
4 Mode) between a plurality of nodes connected into a ring  
5 shape,  
6 each of the nodes comprising:  
7 receiving means for receiving a control cell  
8 from an upstream node; and  
9 transmitting means for writing response  
10 information of the self node for the control information  
11 contained in the received control cell in an area  
12 corresponding to the self node in the control cell and  
13 transmitting the control cell to a downstream node.

2. A system according to claim 1, wherein the  
2 control cell contains the control information, and a  
3 plurality of pieces of response information and flag  
4 information for the respective nodes.

3. A system according to claim 2, wherein said  
2 transmitting means transmits the control cell to which  
3 the response information of the self node responding to  
4 the control information and flag information  
5 representing response of the self node are attached.

4. A system according to claim 1, wherein a  
2 value of a virtual path identifier is preset for each  
3 node.

5. A system according to claim 1, wherein in a  
2 control information transmission source node, said  
3 transmitting means transmits the control cell containing  
4 control information to the nodes except the transmission  
5 source node by broadcasting.

6. A system according to claim 1, wherein  
2 said system further comprises processing  
3 control means for outputting to said transmitting means  
4 a processing control result according to control data  
5 from said receiving means as response information,  
6 said receiving means outputs the control data  
7 contained in the received control cell to said  
8 processing control means and transfers the received  
9 control cell to said transmitting means, and  
10 said transmitting means writes the response  
11 information from said processing control means in the  
12 area corresponding to the self node in the control cell  
13 from said receiving means and transmits the control cell.

7. A broadcasting control system in an ATM ring  
2 network in which a control cell containing control  
3 information is transmitted by ATM (Asynchronous Transfer

00000000000000000000000000000000

4 Mode) between a plurality of nodes connected into a ring  
5 shape,  
6 each of the nodes comprising:  
7 receiving means for receiving a control cell  
8 containing control information from an upstream node,  
9 the control cell having a first area where the control  
10 information is written before transmission of the  
11 control cell, and a plurality of second areas provided  
12 in correspondence with the respective nodes, where  
13 response information for the control information is  
14 written during control cell transmission; and  
15 transmitting means for writing, in the second  
16 area, response information of the self node for the  
17 control information in the first area, and transmitting  
18 the control cell containing the control information and  
19 the pieces of response information of the respective  
20 nodes to a downstream node.

8. A system according to claim 7, wherein the  
2 control cell has a plurality of third areas, provided in  
3 correspondence with the respective nodes, where flag  
4 information representing that the response information  
5 has been written in the second area is written.

9. A broadcasting control method in an ATM  
2 ring network in which a control cell containing control  
3 information is transmitted by ATM (Asynchronous Transfer

4 Mode) between a plurality of nodes connected into a ring  
5 shape, comprising the steps of:

6               transmitting a control cell from a control  
7 information transmission source node to the remaining  
8 nodes except the transmission source node; and  
9               in each of the nodes except the transmission  
10 source node, writing response information of the self  
11 node for the control information contained in the  
12 received control cell in an area corresponding to the  
13 self node in the control cell and repeatedly  
14 transmitting the control cell to a downstream node.

10.           A method according to claim 9, wherein the  
1 control cell contains the control information, and a  
2 plurality of pieces of response information and flag  
3 information for the respective nodes.

11.           A method according to claim 10, wherein the  
2 transmitting step comprises the step of attaching the  
3 response information of the self node responding to the  
4 control information and flag information representing  
5 response of the self node to the control cell and  
6 transmitting the control cell.

12.           A method according to claim 9, wherein a  
2 value of a virtual path identifier is preset for each  
3 node.